

Typical Nontidal Wetland Mitigation Credit Values Using Ratio Method

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The Ratio Method for determining potential mitigation credits relies on establishing ratios based on the planned acreage for each mitigation activity (or method) proposed for the mitigation site. The credit value is generally thought of in terms of the lift in ecological function that will be achieved at the mitigation site. The Ratio Method is a surrogate to estimate functional increases and is the default method unless written approval is received from the Corps and/or MDE to use an alternative approach such as a functional or conditional assessment. The main disadvantage of the Ratio Method is there is only a qualitative inference of function achieved at the mitigation site based on the general category of proposed mitigation activities without any quantitative estimate of lift in function.

Using the Ratio Method, a credit unit is defined as the area of wetland that receives the indicated mitigation activity. The credit conversions below are a ratio of area of activity to credit potentially earned. For example, a ratio of 4:1 for enhancement means that for every four acres of the mitigation site where wetland is enhanced, the mitigation site earns one credit. Rehabilitation, enhancement, and preservation of wetlands generally have higher ratios and earn less credit than other activities because they do not increase wetland area. Enhancement also generally has a higher risk of failure associated with it. Uplands earn the least credit because they do not directly provide wetland functions. Replacement ratios may be used to adjust for the relative quality of impact sites and mitigation projects, where appropriate. Credit conversion ratios should be within the ranges below in most cases. The number of potential credits that a bank or mitigation site may accrue is determined by the mitigation proponent and the Corps and/or MDE during the mitigation approval process, typically after the mitigation site design is developed. All ratios will be determined on a case-by-case basis by the Interagency Review Team or Corps and/or MDE based on ecological considerations such as expected lift in function, expected extent of restoration of ecological processes, likelihood of success, rarity of habitat types, and other considerations. Note: *For terminology that differs between the U. S. Army Corps of Engineers and Maryland Department of the Environment (MDE), the Federal Mitigation Rule term is listed first in Table 1 below, followed in parenthesis by the comparable term used by MDE.*

Table 1: Ratio Method for Determining Mitigation Credits at a Proposed Mitigation Site

Proposed Mitigation Activity¹	Conversion Ratio (Mitigation Activity Area to Mitigation Credit)	Comments
Wetland Re-establishment (Restoration)	1:1	Results in a gain in resource area and functions to an area that was historically wetland. Provides the most functional uplift across the full suite of functions.
Wetland Establishment (Creation)	1:1-2:1	Results in a gain in resource area and functions to an area that was <u>not</u> historically wetland. Provides the most functional uplift across the full suite of functions. May have higher risk of failure than re-establishment. A higher ratio (e.g., 2:1) may be used

¹ Mitigation for difficult to replace wetland resources (e.g., bogs, fens, etc.) should be provided through in-kind rehabilitation, enhancement, or preservation due to the greater likelihood of success.

		when the area is very high risk (e.g., extensive excavation).
Wetland Rehabilitation of altered processes (Enhancement)	1.5:1-4:1	Improvement in a suite of functions performed by a degraded wetland. Examples include converting farmed wetlands back to fully-functioning forested wetlands or improving hydrology and vegetation to a degraded wetland. Ratios depend on amount of functional uplift.
Wetland Enhancement ²	4:1-10:1	Improvement in one or two functions. Ratios depend on amount of functional uplift (e.g., <i>Phragmites</i> control and planting woody species 4:1; <i>Phragmites</i> control only 10:1)
Nontidal Wetland Preservation ³ (in combination with aquatic uplift)	10:1	Preservation in combination with re-establishment, creation, rehabilitation, and/or enhancement of wetlands when shown to be essential for maintaining the ecological viability of adjoining aquatic resources. All five criteria of Federal Mitigation Rule (33 CFR 332.3(h)) must be met for preservation to be used as compensatory mitigation. <i>Note: ratios for wetland preservation within the 25-foot wetland buffer are listed under “Nontidal Wetland Buffer Preservation”.</i>
Nontidal Wetland Preservation alone ⁴ (not in combination with aquatic uplift)	10:1	Preservation will be provided in conjunction with aquatic resource restoration, establishment, and/or enhancement activities, unless this requirement is waived by the Corps and MDE where the preservation has been identified as a high priority using a watershed approach. All five requirements of Federal Mitigation Rule (33 CFR 332.3(h)) must be met for preservation to be used as compensatory mitigation. Whether to

² Enhancement activities generally result in limited changes in functional performance and may result in a decrease in the performance of other functions. Enhancement credit should only be given for significant functional uplift in consideration of a watershed approach. No credit will be given for “enhancement” of healthy wetland systems (e.g., conversion of healthy emergent wetland to forested wetland).

³ Nontidal wetland preservation, buffer enhancement, and buffer preservation should only be considered as a small part of the overall package and must support the wetland system. This may be a larger component of the project if it supports another important habitat, as determined by the Interagency Review Team.

⁴ MDE rarely allows preservation credit when not in conjunction with other aquatic uplift, as this does not meet Maryland’s no-net-loss requirement.

		allow preservation credit will be based on a case-by-case decision.
Nontidal Wetland Buffer Enhancement ²	15:1	Generally includes reforestation. Most wetland creation/restoration projects require a 25-foot wetland buffer around the project.
Nontidal Wetland Buffer Preservation ³	20:1	Most wetland creation/restoration projects require a 25-foot wetland buffer around the project.
Out-of-kind	To be determined	Ratios determined on a case-by-case basis. E.g. Credit for upland buffers beyond the 25-foot wetland buffer may be approved in rare cases, when shown to be essential for maintaining the ecological viability of adjoining aquatic resources using a watershed approach.

Example nontidal wetland project:

Table 2: Impact Assessment of Mitigation Credit Needs using Acreage Replacement Ratios

Wetland Vegetative Type	Impact Amount (sf)	Mitigation to Impact Acreage Ratio	Debit (sf)
Emergent wetland	10,000	1:1	10,000
Forested wetland	10,000	2:1	20,000
Total Mitigation Needed based on the Type and Amount of Impacts	20,000		30,000

For the 20,000 sf of nontidal wetland impacts, the applicant has a mitigation requirement of 30,000 sf.

Table 3: Determining Potential Mitigation Credits at a Mitigation Site Using Ratio Method from Table 1
The applicant is proposing nontidal wetland re-establishment, enhancement, and preservation:

Mitigation Activity	Mitigation Amount (sf)	Ratio Method for Determining Mitigation Credits at a Mitigation Site	Credit (sf)
Re-establishment	20,000	1:1	20,000
Enhancement	20,000	4:1	5,000
Preservation	50,000	10:1	5,000
Total Potential Mitigation Credits Assessed at a Mitigation Site based on the Amount and Mitigation Activity proposed to be implemented	90,000		30,000

Their mitigation proposal would result in 30,000 sf nontidal wetland mitigation credit.